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## Efek Proteksi Biji Mahoni (*Swietenia mahagoni* Jacq.) terhadap Kerusakan Hepar Mencit yang Diinduksi Parasetamol

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### Abstract


**Background:** Seed of *Swietenia mahagoni* Jacq. contains alkaloids, saponins, flavonoids, triterpenoids, steroids, and tannins which were thought to protect liver from free radicals. In present study, *Swietenia mahagoni* Jacq. seed extract was evaluated for its protective effect on paracetamol-induced liver damage in mice.

**Methods:** To evaluate the hepatoprotective effects of *Swietenia mahagoni* Jacq. seed extract, 28 male Swiss Webster mice were equally divided into four groups. Animals of group I (K) and group II (P<sub>1</sub>) were given aquadest for 14 days. Group III (P<sub>2</sub>) received 14 mg/25 g body weight of mice of *Swietenia mahagoni* Jacq. seed extract and the last group (P<sub>3</sub>) received 28 mg/25 g body weight of mice of *Swietenia mahagoni* Jacq. seed extract for 14 days. Paracetamol was given to groups of P<sub>1</sub>, P<sub>2</sub>, and P<sub>3</sub>. Mice were sacrificed on the 15<sup>th</sup> day and histological preparation was made to evaluate histological damage on liver. Liver histological features were assessed by counting the number of hepatocyte on centrilobular zone undergoing pyknosis, karyorrhexis, and karyolysis. Data were analyzed using the OneWay ANOVA test ( $\alpha = 0.05$ ) and then were continued with Post Hoc Multiple Comparisons (LSD) test ( $\alpha = 0.05$ ).

**Results:** The mean liver histological damage score was significantly higher on group of P<sub>1</sub> = 60.71 ± 7.521, while group of K = 9.86 ± 1.574 as the less. P<sub>2</sub> group had fewer numbers of liver histological damage (32.57 ± 2.573) compared to the P<sub>3</sub> group (43.57 ± 3.101). The results of OneWay ANOVA and LSD test showed that there was significant difference between the four groups ( $p = 0.000$ ).

**Conclusions:** *Swietenia mahagoni* Jacq. seed extract showed protective effect against the hepatotoxicity induced by paracetamol in mice. *Swietenia mahagoni* Jacq. seed extract with the dose of 14 mg/25 g body weight of mice showed a higher hepatoprotective effect than the dose of 28 mg/25 g body weight of mice.

**Keywords:** *Swietenia mahagoni* Jacq. seed, liver damage, paracetamol

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